PRESENTERS

Mike Leslie
Executive Director, Investments
Faculty Pension Plan

Neil Watson
Vice President
Leith Wheeler Investment Counsel
AGENDA

• Introductions
• Plan – Fund Weightings & Asset Mix
• Fund Returns
• Investment Market Update
• Question Period
Plan’s Fund Weightings as of December 31, 2017

*Total Assets $2.28 Billion
Global Equities includes investments in both U.S. Equities and Non-North American Equities.

* Global Equities includes investments in both U.S. Equities and Non-North American Equities.
# Fund Rates of Return*
(to December 31, 2017)

<table>
<thead>
<tr>
<th>Fund</th>
<th>1 Yr.</th>
<th>5 Yrs.</th>
<th>10 Yrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced Fund</td>
<td>9.1%</td>
<td>9.3%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Bond Fund</td>
<td>3.1%</td>
<td>2.8%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Canadian Equity Fund</td>
<td>10.3%</td>
<td>10.7%</td>
<td>6.2%</td>
</tr>
<tr>
<td>Foreign Equity Fund</td>
<td>15.9%</td>
<td>17.8%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Short Term Investment Fund</td>
<td>0.8%</td>
<td>1.0%</td>
<td>1.1%</td>
</tr>
</tbody>
</table>

*Before Fees
University of British Columbia Faculty Pension Plan Members

Presented by:

Neil Watson, CFA
Vice President, Portfolio Manager
Proposed Agenda

• Review of 2017
• Outlook for the Next 3 to 5 Years
• Conclusion
• Questions?
Return of a Balanced* Portfolio

Annualized Returns
As of December 31, 2017

<table>
<thead>
<tr>
<th></th>
<th>1 Year</th>
<th>4 Years</th>
<th>10 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Passive Balanced Portfolio*</td>
<td>8.2%</td>
<td>7.7%</td>
<td>5.7%</td>
</tr>
<tr>
<td>CPI</td>
<td>1.9%</td>
<td>1.6%</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

* 5% Cash, 35% Bonds, 30% Canadian Equities, 15% U.S. Equities (C$), 15% International Equities (C$). Index Returns.
# Review of 2017

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>1 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;P/TSX</td>
<td>2.4%</td>
<td>-1.6%</td>
<td>3.7%</td>
<td>4.5%</td>
<td>9.1%</td>
</tr>
<tr>
<td>S&amp;P 500 (C$)</td>
<td>5.2%</td>
<td>0.4%</td>
<td>0.5%</td>
<td>7.2%</td>
<td>13.8%</td>
</tr>
<tr>
<td>MSCI EAFE (C$)</td>
<td>6.4%</td>
<td>3.4%</td>
<td>1.4%</td>
<td>4.8%</td>
<td>16.8%</td>
</tr>
<tr>
<td>TMX Universe</td>
<td>1.2%</td>
<td>1.1%</td>
<td>-1.8%</td>
<td>2.0%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>
Key Themes in 2017

• Synchronized Global Economic Growth
  • Output gaps closing worldwide

• Path Towards Monetary Policy Normalization
  • US/Canada increased policy rates, Central Bank asset accumulation slowing

• Canadian bond yields rose and yield curve flattened

• Commodity prices improved, particularly in the latter part of 2017
  • WTI – December 2016 – $53
  • WTI – December 2017 – $60

• Trump – NAFTA, Tax Cuts

• Brexit
OECD Countries’ GDP Growth

Economic growth was achieved by all 41 OECD countries in 2017.
Canadian and US Labour Tightening

Canadian Labour Market
Source: Stat Canada

Unemployment Rate %

Net Change In Employment (Thousands)

2012 2013 2014 2015 2016 2017

Unemployment Rate

Net Change In Employment

Canadian Labour Market

US Unemployment Rate & Initial Jobless Claims
Source: Bureau Of Labor Statistics, Department Of Labor

US Initial Jobless Claims SA

U-3 Unemployment Rate

U-3 Unemployment Rate


US Initial Jobless Claims SA

U-3 Unemployment Rate

Net Change In Employment

Source: Stat Canada

Net Change In Employment


U-3 Unemployment Rate

US Initial Jobless Claims SA

U-3 Unemployment Rate


U-3 Unemployment Rate

US Initial Jobless Claims SA

U-3 Unemployment Rate
Canadian Bond Yield Curve in 2017

Short-Mid term bond yields increased during the year but longer term yields are actually lower.
Update on Global Market Performance In 2017

- Europe and the Pacific region led developed markets in 2017
- Canada lagged other markets around the globe during the year
- Emerging markets continued to outperform developed markets
- Currency detracted from performance as the Canadian dollar strengthened on balance against other currencies

<table>
<thead>
<tr>
<th>Stock Market</th>
<th>Local Currency</th>
<th>Canadian Dollars</th>
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<tbody>
<tr>
<td>Europe (Ex. U.K.)</td>
<td>13.6%</td>
<td>18.5%</td>
</tr>
<tr>
<td>Pacific (Ex. Japan)</td>
<td>19.4%</td>
<td>17.6%</td>
</tr>
<tr>
<td>Japan</td>
<td>19.8%</td>
<td>15.8%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>11.7%</td>
<td>14.3%</td>
</tr>
<tr>
<td>United States</td>
<td>21.2%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Canada</td>
<td>8.5%</td>
<td>8.5%</td>
</tr>
<tr>
<td>MSCI World</td>
<td>18.5%</td>
<td>14.4%</td>
</tr>
<tr>
<td>Emerging Markets</td>
<td>30.6%</td>
<td>28.3%</td>
</tr>
</tbody>
</table>

* Source: MSCI Developed & Emerging Market Indices
As of December 31, 2017

- Information Technology: 29.7%
- Materials: 15.7%
- Consumer Discretionary: 14.9%
- Financials: 14.2%
- Health Care: 14.1%
- S&P 500 Total Return: 13.8%
- Industrials: 13.1%
- Consumer Staples: 6.0%
- Utilities: 4.7%
- Real Estate: 3.6%
- Energy: -7.5%
- Telecommunication Services: -7.7%
MSCI EAFE Sector Performance (C$) in 2017

- Information Technology: 30.5%
- Materials: 25.6%
- Industrials: 21.9%
- MSCI EAFE Index: 17.3%
- Financials: 17.1%
- Consumer Discretionary: 17.0%
- Consumer Staples: 16.4%
- Energy: 14.3%
- Real Estate: 14.1%
- Utilities: 12.0%
- Health Care: 10.0%
- Telecomm Services: 5.9%
S&P/TSX Composite Index
Sector Performance – 2017

As of December 31, 2017

-7.0% -5.0% 0.0% 5.0% 10.0% 15.0% 20.0% 25.0% 30.0% 35.0%

Health Care: 34.2%
Consumer Discretionary: 22.8%
Industrials: 19.7%
Information Technology: 16.8%
Telecommunication Services: 14.8%
Financials: 13.3%
Real Estate: 11.2%
Utilities: 10.8%
S&P/TSX Composite Total Return: 9.1%
Consumer Staples: 7.8%
Materials: 7.7%
Energy: -7.0%

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Our Outlook for the Next 3-5 Years
The Dangers in Economic Forecasting
Extended Recovery

Real per Capita GDP
Source: Bloomberg, Reinhart & Rogoff

Date since trough in leading indicators (Years)

Percentage
-10% -5% 0% 5% 10% 15% 20% 25% 30%

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Mar-18
Economic Summary

- Developed markets in general are struggling with weak productivity and increasingly challenging demographics which will result in lower economic growth going forward.
Tepid Inflation

US Core PCE and Canada CPI-Common
Source: Bureau Of Economic Analysis, Bank of Canada, Bloomberg
Bond Summary

- In this environment bond portfolios can be expected to deliver close to their yield at starting time of investment (+/- 1%). Current yield is approximately 2.5%
Our forecast also sees lower terminal rates for Canada compared to previous cycles due to dampening structural effects from unfavourable demographic and productivity trends.
## Equity Valuation

<table>
<thead>
<tr>
<th></th>
<th>Dividend Yield</th>
<th>Valuation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>2.76%</td>
<td>• Trailing P/E 19.5x vs 10y mean 18.7x</td>
</tr>
<tr>
<td>United States</td>
<td>1.89%</td>
<td>• Trailing P/E 22.5x vs 10y mean 17.3x</td>
</tr>
<tr>
<td>Global</td>
<td>3.04%</td>
<td>• Trailing P/E 19.5x vs 10y mean 20.0x</td>
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</table>
## Stock Market Return Expectations

### 10 Year Returns Based on Starting Period
**Price To Earnings Multiple**

<table>
<thead>
<tr>
<th>P/E Multiple Range</th>
<th>10 Year Return</th>
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<tbody>
<tr>
<td>25x - 50x</td>
<td>1.5%</td>
</tr>
<tr>
<td>16.6x - 25x</td>
<td>8.1%</td>
</tr>
<tr>
<td>12.5x – 16.6x</td>
<td>10.7%</td>
</tr>
<tr>
<td>10x – 12.5x</td>
<td>13.3%</td>
</tr>
<tr>
<td>8x -10x</td>
<td>14.8%</td>
</tr>
<tr>
<td>7x - 8x</td>
<td>16.5%</td>
</tr>
</tbody>
</table>

Many of these outcomes were achieved in higher economic growth environments
What to Expect from Equity Portfolios

Estimate method #1:

- 10 year Nominal Growth in Earnings + Dividend Yield = Expected Return*
  
  4.5% + 1.8% = 6.3%*

Estimate method #2:

- P/E Multiple range 16.6x – 25x indicates expected return below 8%*

* Plus/minus any valuation adjustments
Market Concerns

Global Monetary Policy Moving Forward

US Fiscal and Trade Policy
- Impact on global trade
- Tax cuts/deficits
- Infrastructure spending
- Political instability

Unexpected Inflationary Pressures

Brexit

Other?
Market Performance
2018 YTD

Equity Markets Peak (Jan. 25/26)

Equity Markets Trough (Feb. 8/9)

<table>
<thead>
<tr>
<th>Date</th>
<th>TMX Universe</th>
<th>TMX Long</th>
<th>S&amp;P/TSX</th>
<th>S&amp;P 500 (US$)</th>
<th>MSCI EAFE (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/1/2018</td>
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<tr>
<td>1/7/2018</td>
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<tr>
<td>1/13/2018</td>
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<tr>
<td>1/19/2018</td>
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<tr>
<td>1/25/2018</td>
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<tr>
<td>1/31/2018</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2/6/2018</td>
<td></td>
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<tr>
<td>2/12/2018</td>
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<tr>
<td>2/18/2018</td>
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</tr>
</tbody>
</table>

S&P/TSX High 54,178.77  S&P 500 (US$) 5,606.08  MSCI EAFE (US$) 6,503.86
S&P/TSX Low 50,188.91  S&P 500 (US$) 5,040.06  MSCI EAFE (US$) 5,927.75

Return -7.4% -10.1% -8.9%
Volatility Here to Stay
## Managing Risk Through Diversification

<table>
<thead>
<tr>
<th>1959 – 2017 (59 years)</th>
<th>Historical Return</th>
<th>Best Year</th>
<th>Worst Year</th>
<th>Years to Recover</th>
<th># of Negative Years</th>
<th># of Positive Years</th>
<th>Std. Deviation</th>
<th>Growth of $100</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>100% Fixed Income</strong></td>
<td>7.4%</td>
<td>35.4%</td>
<td>-4.3%</td>
<td>&lt;1</td>
<td>5</td>
<td>54</td>
<td>7.1</td>
<td>$4,814</td>
</tr>
<tr>
<td><strong>80% Fixed Income / 20% Equities</strong></td>
<td>8.2%</td>
<td>30.7%</td>
<td>-2.0%</td>
<td>&lt;1</td>
<td>2</td>
<td>57</td>
<td>6.5</td>
<td>$6,915</td>
</tr>
<tr>
<td><strong>60% Fixed Income / 40% Equities</strong></td>
<td>8.9%</td>
<td>30.1%</td>
<td>-7.4%</td>
<td>1.5</td>
<td>7</td>
<td>52</td>
<td>7.5</td>
<td>$9,544</td>
</tr>
<tr>
<td><strong>40% Fixed Income / 60% Equities</strong></td>
<td>9.6%</td>
<td>34.6%</td>
<td>-14.3%</td>
<td>5.5</td>
<td>9</td>
<td>50</td>
<td>9.5</td>
<td>$12,454</td>
</tr>
<tr>
<td><strong>20% Fixed Income / 80% Equities</strong></td>
<td>10.1%</td>
<td>39.1%</td>
<td>-21.2%</td>
<td>5.5</td>
<td>14</td>
<td>45</td>
<td>12.0</td>
<td>$15,430</td>
</tr>
</tbody>
</table>

Fixed Income is represented by FTSE TMX Universe Bond Index  
Equities are represented by 1/3 S&P/TSX / 1/3 S&P 500 (CAD) / 1/3 MSCI EAFE (CAD)

*Diversification is an essential risk management tool. A proper balance is critical to long term success.*
Key Takeaways

- The global economy continues to heal from the financial crisis but future growth will likely be lower than we have experienced in the past.
- Low interest rates have reduced the income we receive on bonds but they continue to play a key role in portfolios.
- Valuations on stocks are reasonable overall and expected returns remain attractive.
- A well constructed, diversified portfolio of stocks and bonds will provide solid performance over time.
Thank You.
Questions?
2018 UBC Faculty Pension Plan Forum

May 16, 2018
Venue: Robert H. Lee Alumni Centre

Presentation begins at 10:30 a.m.
- Plan performance in 2017
- Review 2017 and 2018 Initiatives
- The presentation will be available to view via webcast at faculty.pensions.ubc.ca/pensionforum

Information Tables & Guest Exhibitors – 11:45 a.m. to 1:00 p.m.
- New to the Plan table
- Retirement
- UBC Retirement & Survivor Benefits
- Faculty Relations
- EFAP
Equities Remain Fair Value to Corporate Bonds

Over the past 10 years, stock earnings and corporate bond yields have tracked closely.
Global Manufacturing PMI and Regional Fed Surveys

Optimism for future growth was consistent through major economies.
Consumer Confidence and Outlook

US Consumer Confidence
Source: Bureau Of Economic Analysis, Bloomberg

Bank Of Canada Business Outlook Survey
Source: Bloomberg, Bank of Canada

Small Business Optimism Index
Source: Bloomberg, DNat'l; Fed of Industrial Business

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Inflation Showing Up in Producer Prices

Signals of inflation continue to improve after hitting a trough in December 2015.

Core PPI (YoY)

Source: Bloomberg


0 0.5 1 1.5 2 2.5 3

%
Long Term Asset Class Returns

Investment Results
(Growth of $100 from December 1949 to December 2017)

Value of $100
(Annualized Rate of Return)

US Equities in $C:
$167,731 (11.5%)

Canada Equities:
$57,057 (9.8%)

Bonds:
$12,897 (7.4%)

T-Bills:
$3,214 (5.3%)

Inflation:
$1,074 (3.6%)
### Asset Class Winners and Losers

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<tbody>
<tr>
<td>Highest</td>
<td>14.2</td>
<td>33.9</td>
<td>28.3</td>
<td>37.7</td>
<td>31.7</td>
<td>8.8</td>
<td>11.3</td>
<td>26.7</td>
<td>14.5</td>
<td>24.1</td>
<td>26.3</td>
<td>9.8</td>
<td>6.2</td>
<td>35.1</td>
<td>20.6</td>
<td>18.8</td>
<td>14.8</td>
<td>48.4</td>
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<td>21.0</td>
<td>21.1</td>
<td>16.8</td>
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<tr>
<td>7.4</td>
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<td>23.4</td>
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<td>5.7</td>
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<td>20.5</td>
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<td>14.0</td>
<td>18.3</td>
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<td>17.6</td>
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<td>18.3</td>
<td>17.7</td>
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<tr>
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<td>18.6</td>
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<tr>
<td>1.8</td>
<td>14.5</td>
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<td>12.8</td>
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<td>-6.5</td>
<td>-16.6</td>
<td>8.0</td>
<td>9.0</td>
<td>2.6</td>
<td>13.0</td>
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<td>9.3</td>
<td>-2.0</td>
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<td>13.0</td>
<td>10.6</td>
<td>4.5</td>
<td>1.3</td>
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<tr>
<td>-0.2</td>
<td>8.2</td>
<td>6.4</td>
<td>6.2</td>
<td>4.4</td>
<td>4.7</td>
<td>4.7</td>
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<td>3.3</td>
<td>1.6</td>
<td>4.0</td>
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<td>-29.8</td>
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<td>-8.7</td>
<td>4.0</td>
<td>1.0</td>
<td>3.7</td>
<td>0.6</td>
<td>0.5</td>
<td>7.1</td>
</tr>
<tr>
<td>Lowest</td>
<td>-7.8</td>
<td>7.4</td>
<td>5.0</td>
<td>3.2</td>
<td>-1.6</td>
<td>-6.2</td>
<td>-10.8</td>
<td>-16.6</td>
<td>-22.7</td>
<td>2.9</td>
<td>2.3</td>
<td>1.3</td>
<td>3.9</td>
<td>-16.5</td>
<td>-33.0</td>
<td>0.6</td>
<td>0.5</td>
<td>-10.2</td>
<td>1.0</td>
<td>-7.0</td>
<td>0.9</td>
<td>-8.3</td>
<td>-2.0</td>
<td>0.6</td>
</tr>
</tbody>
</table>

* Diversified: 25% TSX Composite, 20% S&P 500 (C$), 15% MSCI EAFE – Net (C$), 40% FTSE TMX Canada Universe Bond Index

UBC Faculty Pension Plan Members
Mar-18
Performance Disclaimer

Investment performance returns are presented before investment management fees, but after the deduction of brokerage commissions. Returns are calculated on a time weighted, total return basis which includes all dividends (except non-cash stock dividends), interest, and realized and unrealized gains and losses after the deduction of applicable withholding taxes. Past performance is not an indicator of future results.

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Thank you!

Questions?